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TELECOMMUNICATIONS POLICY,
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No. 291



FOREIGN BROADCAST INFORMATION SERVICE

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DEALING WITH DIRECT TV BROADCASTING SATELLITE REQUIRED

Jakarta SENAR HIRAPAN in Indonesian 23 Aug 83 pp 1, 12

[Text] Jakarta, 22 August—Indonesia cannot prevent the introduction of DBS (Direct Broadcasting Satellite) technology. However, consideration must be given to the "spill over" of broadcasts from other countries. This was stated by Doctor Subrata, director general of radio, television, and films, at a seminar on the various kinds of communications technology, which was held on Tuesday (23 August) at TVRI [Indonesian Radio and Television Service] Studio 7 in the Senayan district of Jakarta.

According to Subrata, the system of broadcasting by DBS involves the direct broadcast of television programs from a satellite and into the homes of the people without transmitting the signals through intermediate ground stations. For everyone who owns a television set it will be sufficient to install a parabolic antenna on the roof of his house and directly receive broadcasts transmitted via satellite.

According to the director general of radio, television, and films, Japan began intensive research into the DBS system in 1978, using the BS-1 satellite. The success of the research subsequently led Japan to decide to begin using the DBS system in 1984. Meanwhile, factories in that country are presently trying to bring down the cost of the special antenna as much as possible. He said: "At present the cost of the additional equipment is about the same as that of a color television set."

He said that his office is preparing a draft law to deal with the possible influence of the DBS system. Beginning with the 1990's, Indonesia will have to decide whether it will be necessary or not to have permits for the use of various new types of electronic media equipment.

Question of Time

The director general of radio, television, and films, who is convinced that adaptation to the newest technological products is only a matter of "time," has also invited all persons concerned to make sure that Indonesia is ready to deal with DBS broadcasts. According to him, in terms of legislation, there needs to be research as to whether the "spill over" from DBS broadcasts is a form of "illegal border crossing" or not.

Doctor Subrata gave as an example the Australian DBS satellite ("Aussat"), which will enter into service in 1985. Because Papua New Guinea will also use the services of this DBS system, there will be a "spill over" in Irian Jaya Province. He said: "This could cause difficulties in international relations, and for the developing countries the consequences could be negative."

One question which also must be resolved right away, he said, is the function of the Indonesian "Palapa" satellite itself. Consideration must be given to whether Palapa will be able to handle a special DBS

transponder or whether it will be necessary to purchase a new satellite which will function specifically for LBS broadcasts. He added: "The latter possibility will certainly be more expensive."

According to the director general, for Indonesia there is no choice other than to select the best alternative to deal with LBS programs. He said: "Any country which has had the courage to engage in radio and television broadcasting must also have the courage to deal with the fact of risks involved in this technological leap forward."

Obstacles

Nonetheless, Dr Alwi Dahlan, assistant minister of state for population and environment affairs, thinks that there are still many obstacles to be removed before LBS "fever" affects many households in Indonesia. In his working paper entitled: "Some Implications of the LBS System from the Communications Point of View," he foresees a number of problems which would make LBS broadcasts very expensive, with the result that such broadcasts would only be available to wealthy people or electronics enthusiasts.

According to him, obstacles may result from geographic location, because of a different broadcasting system and also because of differences in language. He gave the example of LBS viewers in Great Britain who can receive their own broadcasts with a 90 centimeter line antenna. However, if they want to receive Spanish LBS broadcasts, they will have to use a 2.5 meter antenna. This is because the two countries are rather far from each other.

The broadcasting system used by one country, which may be different from the system used in another country, may affect the ability to receive telecasts. He gave the example of Japan using the NSTD [National Television System Committee] broadcasting system, whereas Indonesia uses the PAL [Phase Alternation Line] system. Alwi added: "And if that problem is resolved, the problem of different languages will increasingly limit the possibility of LBS broadcasts being widely received."

Surfing questions are also involved, and these make it unlikely that owners of antennas in Indonesia will be able to receive LBS broadcasts from the United States. These broadcasts use a kind of "cribbler," as a result of which only those who rent such an apparatus can watch such programs.

Regarding security steps which must be taken by Indonesia, Doctor Alwi, who has a doctoral degree in communications science, urged that Indonesia or TVRI should improve its own broadcasting system.

Best Protection

According to Doctor Alwi, the best protection against the negative influences of LBS broadcasts lies in improving the Indonesian broadcasting system in such a way that if Indonesian television viewers are given the choice, a majority of them will choose Indonesian programs. He added: "Whatever the case, it is better for viewers to have a choice of domestic broadcasts, rather than a choice of broadcasts from abroad."

This first seminar of its kind in Indonesia to consider the LBS question heard the views of 11 speakers. Dr E. Yarin and Doctor [Engineer] Sembiring discussed technical questions involving LBS. Doctor [Engineer] Jayatno and Doctor [Engineer] Desabrata discussed the future of the electronics industry in connection with the LBS system.

Doctor Alfian and Dr Alwi Dahlan discussed the implications of the LBS system from the point of view of social science and journalism. Dr Jalaludin and Dr Ali Djahri spoke of the influence on television viewers. The journalistic aspect was handled by Dr D H Ansegaff and Dr Harsono Suardi. The legal aspects of the LBS system were discussed by Prof Dr Priyatna Abdurasyid and Dr Sri Sumantri.

Dr Willy Karanoy, the concluding speaker from TVRI, expressed the hope that the seminar on the LBS system had not been too confusing for those attending but would rather be an initial step in the effort to consider the consequences of the existence of LBS technology.

SATELLITE COMMUNICATIONS SEMINAR OPENS IN SHANGHAI

OWO51429 Beijing XINHUA in English 1414 GMT 5 Oct 83

[Text] Shanghai, October 5 (XINHUA) -- A seminar on domestic satellite communications, the first of its kind held in China, opened here today. The eight-day seminar, part of the activities for the 1983 World Communications Year, is sponsored by the Chinese Ministry of Posts and Telecommunications and the International Radio Consultative Committee of the International Telecommunication Union.

Attending are 150 foreign experts including representatives of eight international organizations. Participants are from 24 countries, including Australia, Canada, France, India, Iran, Italy, Japan, Thailand, Britain, the United States, the Federal Republic of Germany and the Soviet Union.

They will share experiences, explore new satellite communications technology and discuss problems about systems design and practical applications of satellite communications.

Sixty-three papers covering domestic satellite systems, systems development and planning, rural and light traffic systems, small ground stations, antennas, propagation and interference, geostationary satellite orbit, and implementation of Chinese domestic satellite orbit, and implement of Chinese domestic satellite development have been received for presentation at the seminar.

Addressing the opening ceremony, Richard C. Kirby, director of the International Radio Consultative Committee (CCIR) said, "We have already learned to experience the increasing contribution of the Chinese experts in the work of the CCIR and other activities of the International Telecommunication Union."

CSO: 5500/4134

PRC PLANS TO LAUNCH COMMUNICATIONS SATELLITE

HK070624 Beijing ZHONGGUO XINWEN SHE in Chinese 1417 GMT 6 Oct 83

[Report by reporter Su Rongjuan: "China Will Launch the First Experimental Communications Satellite at Year-End or Early Next Year" -- ZHONGGUO XINWEN SHE headline]

[Text] Shanghai, 6 Oct (ZHONGGUO XINWEN SHE) -- Vice Minister of Posts and Communications Zhu Gaofeng said that China would launch the first experimental communications satellite at the end of 1983 or early 1984. This is China's new attempt in developing a communications satellite.

Zhu Gaofeng made the remarks at a national satellite communications symposium which was held in Shanghai. He believed that since this symposium was held in China in World Communications Year, it provides good opportunities for reaching new techniques in satellite communications as well as providing experience for China's satellite development.

Zhu Gaofeng said: As early as at the beginning of the 1970's, China had already established and developed satellite communications, and later established three standard ground stations with 30-meter-long antenna in Beijing and Shanghai. In addition, China has also been carrying out research work on the equipment for satellite communication ground stations. From June to August 1982, China conducted a large-scale and relatively comprehensive national satellite communications experiment by making use of a transmitter of the international communications satellite above the Indian Ocean region. The experiment created the necessary technical conditions for China to rent a transmitter of an international communications satellite, and to organize national satellite communication.

On the characteristics of developing China's satellite communications, he pointed out: The present foundation of communications in China is weak. The distribution of population and economy of China is not even, and the present means of communications are too few to meet the country's demand in national construction. Therefore, we need to develop these communications means which require less investment and less time in construction in light of some foreign experiences and the specific conditions in China. And satellite communications are an ideal means of communications. In the wake of the constant development in economic construction and in science and technology, China will gradually establish a national satellite system by the turn of this century. He sincerely hoped that Chinese residing abroad, Taiwan compatriots, Hong Kong and Macao compatriots, and foreign nationality Chinese will suggest ways and means for China's national satellite communications cause.

CSO: 5500/4133

GUANGDONG-HONG KONG MICROWAVE BEGINS OPERATIONS

HK070736 Guangzhou Guangdong Provincial Service in Mandarin 2300 GMT 6 Oct 83

[Text] After more than 2 years of construction, the microwave communications system linking Guangzhou, Shenzhen, and Hong Kong will formally go into operation today [7 Oct]. This communications project has the greatest capacity and has relatively the most advanced technology and equipment in our country.

The truck channel of the system between Guangzhou and Hong Kong has a maximum capacity of 2,700 lines. This means that 2,700 phone calls can be made simultaneously without interference. The system can also transmit telegrams, photographs, manuscripts, newspapers, and figures. It can also transmit a color TV channel and two channels of TV audio. Opening ceremonies will be held simultaneously this afternoon at the Guangzhou communications station in Guangzhou and the new international building in Hong Kong.

CSO: 5500/4135

PROGRESS IN OPTICAL FIBRE COMMUNICATIONS RESEARCH

Reprinted from THE WORKING PEOPLE'S DAILY in English 11 Sep 83 p 6

[Text]

GUANGZHOU, 9 Sept.—China has made important progress in research on optical fibre communications, a Chinese laser expert said here Thursday.

Professor Wang Zhiping, Deputy Director of the Shanghai Institute of Opt and Fine Mechanics, told the International Conference on Lasers 1983, which opened here Tuesday, that pilot optical fibre communications systems have been installed in Shanghai, Beijing, Wuhan and other major cities in China.

Some of the projects, including a 7.7-kilometre, 120-channel communications system in Wuhan, have gone into operation, he said. The system has been performing well for over four years with a very low error rate.

A 672-channel optical fibre telephone system is being developed in Shanghai and Wuhan, he added.

China has also independently developed many principal types of laser devices, including carbon-dioxide lasers, dye lasers, neodymiumglass high-power lasers and white-light lasers, Professor Wang said.

Lasers can be used to aid accurate construction of ships, aircraft, railway tracks, bridges, tunnels, mines and buildings. The 70-metre-high piers of the Yangtze River bridge at Chongqing were set by laser instruments with an error of only two to three millimetres, much lower than the permissible tolerance of 30 millimetres Wang said.

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

SATELLITE COMMUNICATIONS PLANS--Shanghai, 5 Oct (XINHUA)--Zhu Gaofeng, vice minister of posts and telecommunications, announced here today that, beginning next year, China would lease an international communications satellite transmitter to begin its domestic operation of satellite communications. He added that China would gradually set up its own satellite communications network. Speaking at an international meeting to discuss satellite communications, he said that China would launch its home-made communications satellite in the near future. The international meeting, which opened here today, is cosponsored by the Ministry of Posts and Telecommunications and the Radio Consultative Committee of the International Telecommunication Union. [Ji Jincheng] [Text] [HK060122 Beijing XINHUA Domestic Service in Chinese 1655 GMT 5 Oct 83]

INTERNATIONAL SATELLITES--Shanghai, 5 Oct (ZHONGGUO XINWEN SHE)--China's Ministry of Posts and Telecommunications has decided to rent transponders of international communications satellites next year in order to develop China's domestic satellite communications. This was revealed by Zhu Gaofeng, a deputy minister of the ministry, at a symposium on domestic satellite communications today. Deputy Minister Zhu said: Since the early 1970's, China has begun to develop satellite communications. China's first ground satellite station for telecommunications was established in Shanghai's Hongqiao district in 1972. A few years ago, China succeeded in building a small-scale ground station with 5-meter and 6-meter antennas. This has provided the necessary technical equipment for establishing and developing China's domestic satellite system. He also said: China plans to speed up the development of the domestic satellite communications system in the next few years. It is prepared to first rent some transmitting channels from the international satellite communications organization to help China's domestic satellite communications system take shape. Then, China will launch its own communications satellites in the near future. [Text] [HK060227 Beijing ZHONGGUO XINWEN SHE in Chinese 1345 GMT 5 Oct 83]

GUANGDONG TV STATION INAUGURATED--A ceremony was held on the morning of 30 September to mark the inauguration of channel 14 of the No 2 Guangdong TV station. Responsible comrades of the provincial CPC committee, the advisory committee of the provincial CPC committee, and the provincial

government Yang Yingbin, Chen Yueping, Kuang Li, and others attended the ceremony. At the ceremony, Yang Yingbin, Standing Committee member of the provincial CPC committee, delivered a speech. He said: The inauguration of the No 2 Guangdong TV station is a prime issue in the cultural life of the people throughout the province. He hoped that the No 2 TV station would attract bigger audiences by providing more and better programs, so as to serve the purpose of building socialist spiritual civilization. The No 2 Guangdong TV station will broadcast programs for 5 hours during the day and 5 hours in the evening on weekdays and increase the overall daily figure by one-half hour on Saturdays and Sundays, making a total broadcasting time of 71 hours every week. [Text] [HK030447 Guangzhou Guangdong Provincial Service in Mandarin 1100 GMT 30 Sep 83]

CS01: 5550/6132

COMMUNICATIONS OFFICIAL VIEWS INDUSTRIAL, TECHNOLOGICAL POLICY

Rio de Janeiro MANCHETE in Portuguese 3 Sep 83 pp 100-101

[Interview with Communications Ministry Secretary General Romulo Furtado; date and place not given]

[Text] The secretary general of the Ministry of Communications, Romulo Furtado, granted an exclusive interview to MANCHETE regarding the country's industrial and technological policy. He stressed the "nationalist, wholesome and realistic" nature of that sector. He made a review of the veritable revolution that is being carried out in our public service and in the telecommunications area. The satellite is more and more ours.

[Question] How are telecommunications in Brazil?

[Answer] It was the old Telecommunications Council (CONTEL), the predecessor of the Ministry of Communications, that adopted the first measures to support the development and consolidation of the telecommunications industries in Brazil. All of this is recorded in Law No 4,117 of 27 August 1962 which, together with Decree-Law No 200/67, endows the Ministry of Communications with authorization to "promote and stimulate the development of the telecommunications equipment industry, giving preference to those the majority capital of which belong to Brazilian shareholders." Similarly, the same legal instruments granted the ministry authority "to establish or approve the technical standards and specifications to be observed in planning industrial production and in the manufacture of components, apparatus and equipment used in the telecommunications services.

[Question] So for several years there has been a policy directed toward the nationalization of telecommunications...

[Answer] Exactly. Already in 1964, the old CONTEL established an executive group to study and propose measures for the consolidation of the national industry. In addition, other resolutions were issued, instituting or introducing the new telephone exchange technologies. Thus the ministry's industrial policy was created on the basis of two directives, No 661 of 1965 and No 662 of 1978. The aim of the first was to promote the nationalization of material and equipment used in telecommunications to promote

the development of the equipment industry under control of Brazilian capital; to insure the establishment and development of electronic component industries under the control of Brazilian capital; to consolidate Brazilian factories through the development of Brazilian models; to develop a Brazilian model of a Time-Stored-Program-Controlled (CPA-T) exchange to be produced by companies under the control of national private capital.

[Question] How about the second directive to which you referred?

[Answer] The basic objectives of that one is to achieve an appropriate level of autonomy so that the decisions of an industrial and technological nature may be taken in the country' to reduce the imports of materials, components, equipment, services and engineering designs; to create conditions for the development of Brazilian telecommunications industries.

The Nationalization of Four Large Multinationals

[Question] What are the successes of those measures?

[Answer] We achieved something unprecedented not only in this country but difficult to find in other countries: the nationalization of four large multinationals in Brazil without great problems. The powerful ITT, which today is the Standard Electrica S.A.; the Niponelectrica of Japan; the German Siemens, which was acquired by Hering; and the Swedish Erickson, purchased by the Monteiro de Carvalho Group, were nationalized.

[Question] All of those nationalizations occurred in a quiet manner?

[Answer] There was no trauma, no difficulty. In ceding stock control of the company, the Japanese displayed a unique attitude. They normally do not cede stock control of their companies. But there is one thing. We, for example, with reference to the Americans, did not put a gun to their head and say: "Either nationalize or get out of the country." No, on the contrary. We advised them that they could continue to produce in Brazil and that we would only buy from the Brazilian industries. Thus, initially, ITT ceded stock control and then sold all of its participation to the Brazilian partner. I ask, then: is this not a nationalization? We took that banner and have conducted that process with much success.

[Question] And the national industry was broadly benefited by that...

[Answer] That is true. So much so that today we have a group of national small and medium companies producing a variety of equipment which we could call small-scale.

[Question] What equipment is that?

[Answer] Monochannel radio equipment, telephone equipment, line multiplexing equipment, telephone network equipment, external networks, in short, the whole combination of equipment which the telecommunications system requires. All of this is produced by small and medium completely Brazilian companies for which we reserve the market. Thus we practice the famous reserved market policy which everybody seems to believe is a recent invention. All was done successfully: a combination of small and medium national companies supplying a number of products of interest to the sector. A combination of nationalized large companies, in turn, supplies large-scale equipment to the sector.

[Question] So, in the telecommunications area, Brazil has practically everything it needs?

[Answer] We have the products the sector consumes. To give you an idea: the degree of nationalization is 90 percent, that is speaking conservatively because in some cases nationalization is 97 percent. It is a broadly successful policy.

The Sector Is Not in Partnership With Foreign Capital

[Question] And how is the policy of the Special Secretariat for Data Processing (SEI)?

[Answer] The policy of the SEI established a reserved market for small and medium national companies to build minicomputers and microcomputers. It is the same policy we employ to reserve the market for the small and medium national companies to produce a number of items of equipment. We achieved a little more because today the large equipment is produced by our sector by companies we had nationalized. The data-processing area has not yet achieved that because IBM and Burroughs, large, completely foreign-owned companies that produce large equipment still exist.

[Question] Is there any area of friction between the policy of the Ministry of Communications and the SEI?

[Answer] There are really no differences between the two policies. In the data-processing area, the SEI seeks to favor Brazilian capital. We, too, --before them--seek to favor technological autonomy. In Brazil today, all of the products produced in the field of telecommunications have technologies mastered by Brazilian engineers and technicians. Thus, we have achieved the objectives we had been seeking. The SEI is also pursuing those same objectives. There are no differences but, for unknown reasons, when the press broaches the subject it gives one the impression that we are in a position of being in partnership with multinational capital. That is completely false. It is a completely false interpretation although there is nothing against multinational capital. It is welcome in many ways.

[Question] So, what is happening in the field of telecommunications?

[Answer] I am going to be direct. We were the ones who wanted to attract Brazilian big business into the industrial field of telecommunications because we believed it was advisable. Thus, with our policy we induced the big multinational companies to negotiate with the large national companies.

[Question] But there are complaints that multinationals are putting pressure on the national companies.

[Answer] That's right; it so happens that in the data-processing area, they want to build mini and microcomputers in competition with the national ones. But the SEI is standing pat. And it is standing pat very well. There are no differences; we, too, do not permit our four large companies to manufacture products that belong to the line of the small companies in the area of telecommunications. We have already followed that policy for a long time. And the SEI has also been following it without any problem. We have the research center in Campinas, with spectacular work. One hundred and seventy-eight patents have been registered and we are encouraging a greater level of nationalization of our products in order to depend as little as possible on imports. Today we have all the equipment we need.

[Question] Is there an export policy in the area of telecommunications?

[Answer] All the dollars we import are necessarily exported. That occurred, for example, with the purchase of our domestic satellite. The company from which we purchased it committed itself to importing products from Brazil for the same amount in dollars. That is a way of maintaining the balance. We build the ground stations. We export to Latin America and to the countries where the headquarters of the minority partners of those companies are located: Sweden, Germany, Japan and the United States.

[Question] Can we say that the policy of the Ministry of Communications was successful?

[Answer] A great revolution has been made in terms of public services in telecommunications. No other country in the world has done what we succeeded in doing in such a short period of time. We did more, supported by an industry located here. At the beginning, we did not have an industry. We imported then. And when we imported, the supplier obliged us to install an industry here. At the beginning, that industry came here as a branch of the foreign industry. Then, we continued to buy but demanded that they buy from Brazil. Finally, in order to buy, we said that we wanted them to nationalize the company's capital. It is a nationalist, wholesome and realistic policy. This was a sector that really produced a great revolution in the public services and a great industrial and technological revolution. We made the country enter the electronic era; actually the era of the great electronic industry through a realistic policy the results of which are here to be seen.

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CSO: 5500/2088

COMMUNICATIONS MINISTRY TO EXPORT \$250 MILLION IN 1983

Sao Paulo O ESTADO DE SAO PAULO In Portuguese 18 Sep 83 p 44

[Text] Brasilia--The Ministry of Communications expects the sector to export \$250 million this year compared to \$30 million exported last year. The imports of equipment and components have been undergoing a sharp reduction, according to the ministry's secretary of international affairs, Arthur Cesar de Araujo Itauassu, inasmuch as imports totaled \$351 million in 1975 and were cut to \$107 million in 1981. In addition to exports of equipment, Brazil is signing contracts with countries in South America and Africa for new experiences in the area of cooperation, supplying technical assistance in addition to personnel training for those countries.

In South America, contracts have already been signed with Peru and Ecuador in the amount of \$50 million with each of the countries to implement a management reform in the communications companies, with monitoring and supervision supplied by Brazilian experts. According to the secretary, the picture of cooperation with the countries that are buyers of Brazilian products is developing toward the sale of equipment and service goods, simultaneously.

The secretary of international affairs does not classify this service to purchasing countries as a transfer of technology but as the "transfer of the national engineering experience" and points out that few Third World countries are in a position to carry out this type of service abroad. "Only India and Korea compete with Brazil in the sale of this service to the Third World and Brazil intends to overcome the barrier of the cost of its products by offering technical assistance," he said.

Ituassu declared also that the so-called "horizontal" cooperation--that among the countries of the Third World--will be one of the keynotes of the talk of Minister Haroldo Correa de Mattos at the Fourth International Telecommunications Fair sponsored by the International Telecommunications Union (ITU) and traditionally held in Geneva.

The minister, who has been invited to be the speaker of the Third World this year, will speak on: "Telecommunications in Developing Countries: the Brazilian Example." In addition to emphasizing the need for investment by the ITU, for horizontal cooperation in the context of its programs of technical cooperation, Mattos will reinforce his position that one of the solutions for the countries of the Third World is the increase of horizontal cooperation, and the capacity of Brazil as a valid partner in that relationship. This year's fair will be held from 26 October to 1 November.

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CSO: 5500/2088

BRIEFS

REAGAN APPROVES RADIO MARTI--U.S. President Ronald Reagan has approved the decree authorizing the operation of Radio Marti, which will broadcast propaganda against the Cuban revolution. The subversive station will operate with a \$14-million budget this year, and an additional \$11 million will be added in next year's U.S. budget. In order to meet congressional requirements, Reagan entrusted the station's operation to the VOA. The anti-Cuban station will broadcast propaganda against Cuba 14 hours a day. [Text] [PA031726 Havana International Service in Spanish 1600 GMT 5 Oct 83]

TELECOMMUNICATIONS AGREEMENT WITH PDY--The People's Democratic Republic of Yemen and our country signed in Aden an agreement on the development of cooperation in radio and television. According to the Yemeni news agency ANA, the agreement provides for a continuous strengthening of friendly relations between the peoples of the two nations. Under the terms of the agreement, Cuba and the People's Democratic Republic of Yemen will exchange radio and television programs dealing with different aspects of the life of both peoples and with educational and artistic matters. This agreement on the development of cooperation in the radio and television sectors that was signed by Cuba and Democratic Yemen also provides for joint meetings, the exchange of information, and other matters. [Text] [PL061612 Havana Domestic Service in Spanish 1402 GMT 6 Oct 83]

CSO: 5500/2003

NEED FOR DHAKA-PRC INFORMATION FLOW EMPHASIZED

Dhaka THE BANGLADESH OBSERVER in English 1 Sep 83 p 5

[Editorial: "Greater News Flow"]

[Text]

One effective means of bringing Third World countries closer to each other is to bridge the existing gap in information. And the fact that a viable network of such an information link is yet to be built up between them accounts not a little for inadequacy of mutual knowledge, an essential factor in promoting understanding and better relations between nations. Internationally speaking, the developed part of the world suffers from no such lacks. And the efficacy of such an improved standard of communication maintained between the developed nations is exemplified by such extreme examples as hot-lines vital to forestal major mishaps through a timely contact.

The need for such a facility has been highlighted in the course of a speech at a dinner hosted by All-China Journalists Association Chairman Mr. Wang Yi in honour of the visiting three-member Bangladesh journalists delegation headed by Mr. Obaidul Huq, Editor of The Bangladesh Observer. Mr. Wang Yi stressed the need for a greater flow of

news between his country and Bangladesh with a view to forging better understanding between them. There was a full concurrence of views between him and the leader of the Bangladesh delegation on this subject. What is notable indeed is that the news vacuum between these two friendly countries still exists. The truism bears repeating that the persisting lacuna in communication is as much a relational as pragmatic need in the interest of wider co-operation between the two countries in economic, technological and other fields. A regular exchange of news and views, of visits by journalists of either country to the other and a Bangladesh journalist permanently placed in Peking (as suggested by Mr. Yi) should not take long to work out. Since analogous gaps exist between the Third World nations the matter is worth study in a wider Third World perspective as well.

Bilaterally speaking, now that leading journalists of both countries are meeting together the prospect of things improving in this regard in the near future

ought to be surer than ever. And we look forward to the day when the views expressed by both Peking and Dhaka journalists would be translated into action with concerted efforts on either side.

With Xinhua having already set up a bureau in Dhaka, Bangladesh may reasonably follow suit by establishing its bureau of infor-

mation in Peking. Incidentally it is interesting, as pointed out by the Chairman of Chinese Journalists Association, that hundreds of journalists visit China from the U.S. and European countries but few from Third World countries. This obviously underscores the need for more mobility on the part of the latter, particularly their journalists.

CSO: 5500/7002

KHULNA RADIO BEGINS MIDDAY TRANSMISSION 16 SEP

Dhaka THE NEW NATION in English 16 Sep 83 p 3

[Text]

Radio Bangladesh, Khulna, will start a midday transmission from today, says a press release. The transmission from 12 noon to 3 30 p.m. can be heard on meter band 537.63. Khulna station started broadcasting from December 4, 1970. Subsequently a full fledged broadcasting house was built and opened in July 1979 and a 100 kilowatt transmitter was commissioned in April 1981. So long the station has been broadcasting 10 hours 30 minutes of daily programme on six days and 11 hours on Saturdays. The duration of the station's broadcasts to three transmissions will now rise to 14 hours during six days and 14 hours 30 minutes on Saturdays.

In a message on the occasion, Information Minister, Syed Najmuddin Hashim, said, "The decision to start a midday transmission from Khulna station of Radio Bangladesh from the 16th of this month is sure to be welcomed by millions of listeners within the wide range of its powerful transmitter. This expansion of service will also provide added opportunities for broadcasting talents of the region to make their contributions. While offering my congratulations and wishing good luck to all those connected with the Khulna station I would urge them to strive hard to make broadcasting worthwhile and meaningful for the masses of our people".

CSD: 5500/7004

BANGLADESH

BRIEFS

SUBMARINE TELEPHONE LINE--The installation work of the 100-pair submarine telephone cable line in the river Karnaphuli was completed on Tuesday under the supervision of Mr. H. M. Nurul Huda, Chairman, T&T Board and Mr. S. I. Khan, Member, Planning and Development of T&T Board. With the installation of this cable line the long standing telephone demand of Sikolbaha Power Station, Jaldia Marine Academy, Fish Harbour and many other public on the other bank of Karnaphuli will be fulfilled. This submarine cable line was planned and designed by the Bangladesh Cable Factory, Khulna and engineers and technicians of T&T Board with cooperation from the Chittagong Port Authority. [Text] [Dhaka THE BANGLADESH OBSERVER in English 1 Sep 83 p 1]

NEWSMEN'S PRC VISIT--Bangladesh press delegation returned home on Sunday concluding a two-week friendship and goodwill tour to China, reports BSS. Mr. Obaidul Huq, Editor, BANGLADESH OBSERVER and leader of the three-member delegation, said the delegation was deeply moved by the warmth and friendly gesture shown by the Chinese people of all strata during its stay there. Describing the visit as 'informative and interesting' the leader of the press team said the Chinese leadership and the general people attached great importance to the exchange of visits by journalists from developing countries including Bangladesh. He said we found the nation marching ahead and everybody working hard to develop China into a modern and prosperous country within a short time. The delegation visited the offices of PEOPLES CHINA, Xinhua news agency and CHINA DAILY and some communes in different parts of the republic. The other members of the delegation were Syed Deedar Bakht of the Eastern News Agency (ENA) and Mr Toab Khan, Principal Information Officer. [Text] [Dhaka THE NEW NATION in English 13 Sep 83 p 3]

CSO: 5500/7001/7003

SATELLITE DATA COMMUNICATIONS NETWORK PROPOSED

Bombay THE TIMES OF INDIA in English 12 Sep 83 p 9

[Text] Ahmedabad, September 11 (PTI).

The setting up of a satellite-based data communication network to help banks, airlines, news agencies, industrial undertakings, police, educational institutions and other organisations meet their special, high-volume communication needs is being proposed during the seventh five-year plan.

A suggestion by Prof. Yash Pal, adviser to the planning commission on science and technology, that such a project could be included in the plan, now being formulated, was unanimously endorsed by a representative cross-section of prospective users, scientists, government officials and production agencies at a two-day workshop here.

The features of the project, to be based on the INSAT satellite system, have been worked out on the basis of the computer networks experiment (COMNEX), a collaborative effort of the national centre for software development and computing techniques (NCSDCT), Bombay, space applications centre (SAC), Ahmedabad, and telecommunications research centre (TRC), New Delhi.

Fast Cheque Clearing

Scientists of these three agencies have developed during the last six years advanced techniques for the efficient sharing of a single, high-speed satellite channel to provide a host of reliable, cost-effective and mutually exclusive communication services to a variety of users.

These services, some of which are not now possible because of the limitations of terrestrial channels, include:

(A) Facilities to banks for the fast and reliable transfer of funds to almost any part of the country through the intra-bank and inter-bank exchange of data and messages on cheque clearing, draft handling, inter-branch reconciliation, etc. A senior bank official pointed out that Rs. 500 to 600 crores was now continuously in the "pipeline" between various centres because of communication bottlenecks.

(B) A communication network for Air-India and Indian Airlines linking terminals in the major cities to their main computers for instant ticketing and reservation throughout the country. An airline spokesman pointed out that the network could also be used for aircraft scheduling, maintenance routines, inventories, etc. Railways, hotels and travel agencies could also use such networks, it was suggested.

(C) Networks for national news agencies inter-connecting major news collection-cum-distribution centres for direct broadcast of news and photographs simultaneously to newspapers, commercial organisations, government organisations, and other customers throughout the country.

(D) Inter-active terminals for remote access to computer facilities and data bases, transfer of files from computer to computer, and communication between computers for load-sharing and resource sharing. Research and development institutions such as Indian Space Research organisation (ISRO) and large industrial undertakings like Bharat Heavy Electricals Ltd. (BHEL) can use such facilities for quick access from any one of their various establishments to computer facilities and data bases located in their other establishments.

(E) Institutions of higher education and research would find such networks particularly beneficial, with a few dozen resource centre computers, containing a large repertory of specialised data bases and software packages, being accessible to a few hundred small computers in various centres throughout the country.

The satellite-based data network would be based on:

(A) Small, easily-installable earth terminals, which would eliminate distance and inaccessibility of terrain as factors in the reliability, promptness and cost of communication.

(B) Microprocessor-based systems at each node of the network for simple and efficient sharing of the satellite channel to provide mutually exclusive communication to various users with minimal delay.

(C) A network control computer, which would co-ordinate network activities and maintain tariff accounting. It would also provide the ability for communication software to be updated and moved to all the network nodes.

(D) Random access packet switching, which provides for random transmission of data 'packets' without consideration of channel utilisation by the other users. In the event of simultaneous channel access by two or more users, the lost data packets are retransmitted. This technique allows for alternative routing to achieve optimum use of channel capacity in a situation where the line utilisation by the large number of users cannot be predicted.

(E) Adaptive contention protocol, under which each node in the network monitors the traffic of all other nodes over a fixed "frame" of slots for transmission and selects for itself a set of optimal slots unused by the other nodes. Different nodes impose a mutual exclusion operation on slots, vastly improving throughput and reducing clashes and delays.

CSO: 5500/7000

PAKISTAN

BRIEFS

QUETTA TELEVISION COMPLEX--Quetta, 20 Sep (PPI)--Work on TV complex at Quetta by the Pakistan Television Corporation has been accelerated. It would be completed by March next with an estimated cost of Rs 20 crore. With the completion of the complex, television would be visible throughout the populated areas of Baluchistan through a network of 11 boosters, to be installed at Lak pass, Khojak pass, Bolan pass, Kalat, Khuzdar, Ghazabad, Kan Metherzai, Muslim Bagh, Loralai, Khulu and Maiwand, which would be telecast in colour. Meanwhile, work on 300 kilowatt high-power transmission at Khuzdar is also in full swing. [Text] [GF231220 Karachi DAWN in English 21 Sep 83 p 6]

AZAD KASHMIR TRANSMITTER COMMISSIONING--Muzaffarabad, 1 Oct--The 150 kilowatts medium-wave transmitter of Azad Kashmir Radio (AJK), Muzaffarabad, will formally be commissioned on October 2. The federal minister for information and broadcasting Raja Zafar Haq, will inaugurate. The medium-wave transmitter was planned during last five-year development plan, which provides good medium wave coverage in an area of 166 kilometre radius. The building and installation of the transmitter was completed at a cost of Rs 20.06 million, with a foreign exchange component of Rs 4.326 million. The work on the project started in December 1979, and was completed in November last. The transmitter went into operation on trial basis on December 2, last. The installation work was carried out by Pakistani engineers and machinery was produced by the Equipment Production Unit of PBC [Pakistan Broadcasting Company]. This is the first major transmitter of 150 kw manufactured by the unit. It is the third biggest medium wave transmitter installed in the country so far. The AJK president will host a dinner in honour of the federal minister, Raja Mohammed Zafar Haq. [Text] [GPO41912 Karachi DAWN in English 2 Oct 83 p 12]

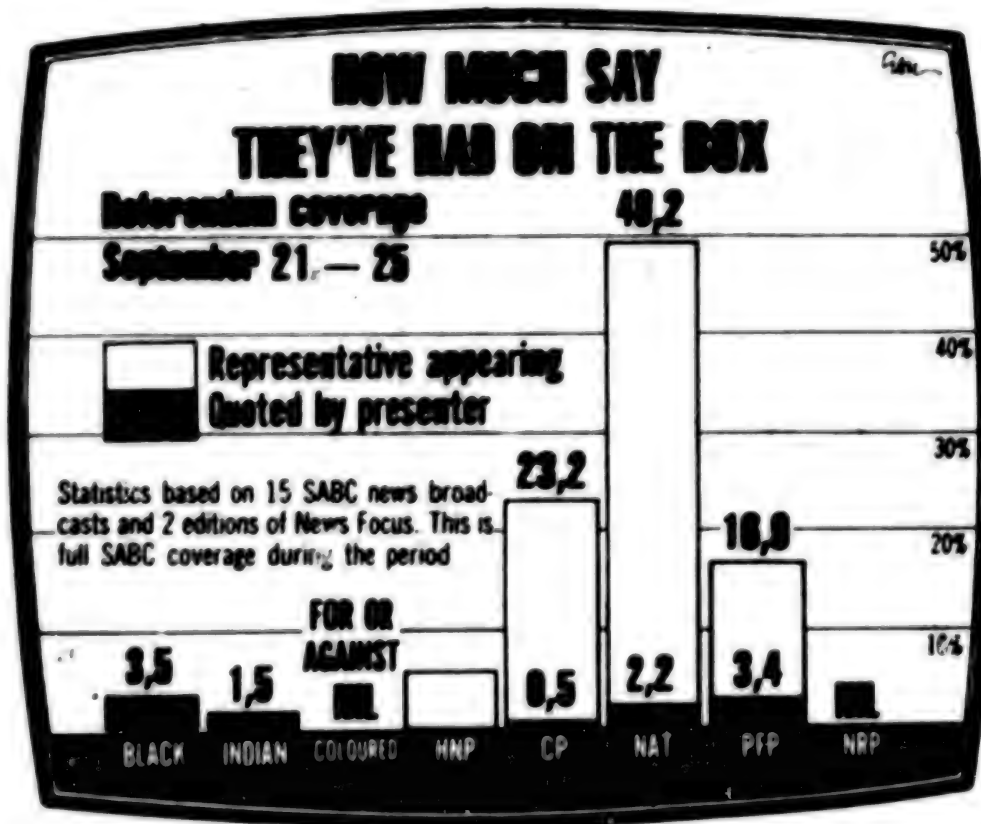
CSO: 5500/4702

SABC TV REPORTING OF REFERENDUM CAMPAIGN EXAMINED

Johannesburg RAND DAILY MAIL in English 27 Sep 83 p 11

[Article by Greg Garden: "How SABC TV Is Reporting the Campaign"]

[Text]



THE ANNOUNCEMENT by the SABC that it is to double the number of weekly broadcasts of the programme News Focus/ Nuis Fokus from this week until November 2 — and that all editions in that period will be devoted to the Constitution Bill

Referendum — was both good and bad news.

In the first instance it seemed to deny finally the remote prospect of a living face-to-face television debate between the leaders of the various parties.

In holding the view that the parties themselves must all agree to participate and

arrange the details of such a debate, the SABC is as usual playing straight into the hands of the National Party, who have repeatedly stated that they will not take part in any such debate.

If, however, the SABC can present a series of balanced and reasonably objective programmes reflecting accu-

rately all views — including those of black, Indian and coloured leaders — then the announcement is to be welcomed.

In the light of this the Rand Daily Mail has asked me to undertake a weekly review of all material pertaining to the referendum broadcast by SABC Television.

The aim of this review will be to present a statistical breakdown of the relative percentages of the total SABC referendum coverage accorded to political parties and groups across the South African spectrum, and to analyse the methods of SABC presentation.

In the past the SABC has shown itself to be highly biased in favour of the National Party: a survey I conducted during the May by-elections showed that 80% of SABC TV news coverage favoured the Nats, against a meagre 5% for the official Opposition.

This review will thus set out to monitor the performance of the SABC in the six-week run-in to the referendum.

Each weekly survey will cover the period from Mondays to Sundays. The statistics reflected in the accompanying graph cover the period Wednesday September 21 to Sunday, September 25.

Aside from five continuity announcements, sometimes accompanied by a graphic regarding correct identity documents for voting, all referendum coverage during this period was contained in news bulletins and in one News Focus and one Nuus Fokus programme.

The following points should be noted:

● The statistics are based on political statements, state-

ments which clearly advocate either a "yes" or a "no" vote.

General news concerning the referendum, and the SABC's continuity announcements, are not included.

● Distinction is made between statements relayed by newsreaders and presenters, and those where the speaker appears on the box.

The former constitute the shaded areas of the graph, the latter the clear parts.

● Obviously, some "grey" areas are bound to arise. I'll apply as much common sense as possible.

It can be seen that, during the first sample period, the National Party received far wider coverage than any other group.

News coverage was made up of straightforward reportage and recordings of statements; it was the two editions of News Focus which were more interesting.

The first — in English, on Thursday, September 22 — attracted attention in the media last Friday after featuring Dr Piet Koornhof talking against an upside-down South African flag.

The programme dealt with co-responsibility, SABC political commentator Daan Eksteen explained the "facts" regarding self-determination and own affairs, and the "new style of politics" joint deci-

sion making, or consensus regarding general affairs.

The rest of the programme featured Dr Koornhof, Dr Van Zyl Slabbert, Helen Suzman, Connie Mulder and Jaap Marais.

The Minister had roughly twice as much time as each of the others, but in the end their collected "no's" received a fifth more time than his "yes".

However, when we note that strong statements from Dr Koornhof both started and ended the programme, and followed Daan Eksteen's factual explanation-giving credence to it, it becomes clear that the programme had a built-in structural bias in favour of the National Party, and was promoting the new Constitution.

I would refer to this approach to English-speakers as the soft-sell method.

In contrast, Friday's Afrikaans equivalent indulged in a blatant hard-sell approach.

The format was the same this time, with only one "for" and one "against" speaker.

The question was posed whether the new Constitution would affect the Christian character of the land?

Professor Johan Heyns, newly elected moderator of the NG Kerk in the Northern Transvaal, was given 18% more time than Professor D S Dreyer to argue articulately

and emphatically in favour of the new Constitution.

This question had been debated in detail in Parliament on Friday, August 19, and Prof Dreyer's points in this programme — namely, that the expression "Almighty God" is wrong and should be "The Holy Trinity" and that the distinction between own and general affairs affects religion when different "voices" are brought together under one constitution — were exactly and precisely the same as those argued in Parliament by the Conservative Party.

For this reason I have included his airtime in the CP statistics, and that of Prof Heyns in the NP's.

Prof Heyns was so to the point and persuasive in his arguing that I actually wondered if both men had been posed the same questions?

Again, the Nat view was made the structure of the programme, but in this case there was no attempt to disguise the two minutes Prof Heyns was given to conclude the programme.

As the referendum draws nearer the distinction between a "no" and a "yes" vote will become more crucial.

The role of the SABC in assisting the public to make up their own minds is no less crucial. Six weeks from D-day, its performance is not very satisfactory.

BRIEFS

CISKEI TV STATION--An independent television station for the Ciskei is on the cards. According to a reliable television source negotiations are underway to establish a television station for the Khosa-speaking people of this independent homeland. At the moment the Khosa people share screen time with the Zulus on SABC TV2 and it would therefore benefit the Ciskeian people to start their own independent TV station. Although a spokesman for the Ciskei Government admitted he had heard speculation within government circles he denied that there was any truth in reports about current negotiations with the South African Government. Bophuthatswana is as yet the only independent homeland to have declared its intentions to start an independent TV station. It too denied the fact at the initial stages, but subsequently announced transmission would start on January 1, 1984. Bophuthatswana TV is to beam programmes only within its borders and to the larger black cities like Soweto and Mamelodi, missing out on Pretoria and Johannesburg. It is therefore doubtful that Ciskei TV would be beamed to the PWV or any other area in South Africa. [Text] [Johannesburg THE CITIZEN in English 24 Sep 83 p 13]

CSO: 5500/4

ZAMBIA

BRIEFS

IRISH TELECOMMUNICATIONS EQUIPMENT--Telextron of Ireland has donated telecommunications [words indistinct] and test equipment worth 75,000 kwacha to the Zambia Posts and Telecommunications Corporation [ZPTC]. ZPTC's director, Philemon Ngwenya, in a statement released yesterday, said that the equipment has been donated for use in the ZPTC's staff-training college in Ndola. He noted that Zambia and Ireland have had a long history of friendship, trust and cooperation. Mr Ngwenya said that for some time now a telecommunications manufacturer based in Zambia, with the support of the Irish Government, has been working closely with the ZPTC to improve and extend communications throughout the country. [Text] [Lusaka Domestic Service in English 0600 GMT 27 Sep 83 MB]

CSO: 5500/41

DANGER OF WESTERN ABUSE OF DIRECT INTERNATIONAL TV BROADCASTS VIEWED

Moscow IZVESTIYA in Russian 26 Jun 83 p 4

[Article by Yu. Kolosov, professor of international law, under rubric "Reply to the Reader": "For the Sake of Nations Becoming Closer"]

[Text] In the press they sometimes use the term direct television broadcasting. Could you discuss this system in more detail?

Ya. Manuvarova, Vinnitsa

The first transmission of radio signals from space to the earth was on 4 October 1957 from the world's first artificial satellite, launched by the Soviet Union. And today satellites have become an indispensable integral part not only of national but also of international communications systems.

The advantage of teletransmission through space as compared with ordinary, surface-of-the-earth television is that all continents can simultaneously observe events taking place tens of thousands of kilometers away from the television viewers. Hence the name—direct television broadcasting (DTB). It is creating unlimited opportunities for expanding the exchange of spiritual values between peoples of our planet, and for their mutual intellectual enrichment and cultural rapprochement.

At the same time, it is essential to keep in mind that television, in the modern world, has become one of the most influential means of shaping social consciousness. It is well known that in the ideological conflict imperialism constantly resorts to the illicit devices of subversive propaganda, open interference in the internal affairs of sovereign states.

Keeping in mind not only the greater blessings of DTB but also its potential danger to the peaceful co-existence of states, as early as 1972 the Soviet government proposed to the UN that an agreement be made concerning the principles of governments' use of artificial satellites of earth.

The UN Committee on the Peaceful Use of Space worked for ten years to prepare the principles of DTB. During this time, the American representatives tried in every possible way to impede or generally disrupt the work. They tried to justify their position by appealing to the so-called acknowledged

principle of "free and unlimited flow of information" in international relations. But the overwhelming majority of UN committee members defended the paramount significance in intergovernmental relations of the principle of strict respect of state sovereignty, which we apply in various degrees to "all spheres of international relations, including international exchanges by means of the mass information media." The powerful characteristics of DTB were particularly emphasized, as well as the fact that not every state is able to use it.

The irresponsible approach of private broadcasting organizations toward putting together television programs for foreign audiences could lead to complications in international life. The measures ensuring freedom of information which are taken within some governments can turn out to be harmful and even destructive in a system of international television broadcasting. One Canadian journalist, giving his assessment of American information activities, emphasized that the United States is not only spreading out Canadian industry, but also the Canadian way of life.

By 1982, the UN committee had practically finished formulating the principles of DTB. The single obstacle remaining in the path of their approval by the UN General Assembly was essentially only the position of the United States. In view of the futility of further debates and the obvious absence of the political will on the part of certain delegations to reach mutually acceptable results, a group of countries proposed that the final decision be made by a vote at the 38th Session of the UN General Assembly. In December 1982 this international organ adopted the principles of DTB by votes of 107 states, including all socialist and developing nations. Only the United States and its allies voted against the resolution.

The approved document should be regarded as an important means of regulating the international use of DTB. It will be a useful instrument in the struggle against every sort of ideological sabotage and a sufficient foundation from which governments can take measures to protect their population from foreign influence by means of television broadcasting through space.

The General Assembly also determined a specific procedure for international cooperation in this field. In the event that any government intends to create an international DTB service, it must notify the governments of the countries which will be able to receive the television programming. If these nations request it, the broadcasting nation is required to enter into consultation with them.

The Soviet Union and the other socialist countries, after actively campaigning in the UN for formulating and adopting the principles of DTB, will unquestionably observe them in their practical activities. The position of the governments, which are members of the Warsaw Pact in the realm of dissemination of mass information, was recently laid forth once more in the Political Declaration adopted at the meeting of the Political Consultation Committee in Prague early this year. It said that the creation of a climate of trust in the relations between governments requires the dissemination of true information, giving up pretensions to great-power status, turning away from the propagandizing of racism, chauvinism, and ethnic exclusiveness, as well as attempts to instruct other peoples how to order their way of life, and sermons of violence which aggravate the military psychosis.

DEVELOPMENT, USES OF FIBER OPTICS IN COMMUNICATIONS DESCRIBED

Moscow KRASNAYA ZVEZDA in Russian 6 Jul 83 p 3

[Article by Engr-Col A. Zhovanik, candidate of technical sciences: "Military-Technical Review: The Problem of 'Frequency Territories'; Data Transmitting Beam; Glass 'Fibers' in Place of Thick Cables: Wavebeam Guide Communications"]

[Text] The basic possibility of transmitting signals over a wavebeam guide was proven back at the end of the last century, but the development of a set of fiber-optic means and use of equipment suitable for practical purposes began a little over two decades ago.

The interest in wavebeam guides is not accidental. Requirements for radio channels for communications, television and other systems are so great that "frequency territories," as they are called by specialists, have become among the scarcest and communicators (in the broad meaning of this word) are spending enormous efforts on the fight against the crowded airwaves. The need for large "frequency territories" led to the optical range, where many thousands of television channels can be accommodated freely.

It is generally known that light, like radio waves, is one of the forms of electromagnetic energy and it is also propagated in the form of oscillations which are easy to modulate by changing their amplitude. And so with the help of a beam of light it is possible to transmit messages as by radio with the very same success.

The fiber-optic communications cable represents glass (quartz) light-conducting fibers (wave beam guides) placed in a certain manner around a reinforcing element and covered on the outside by an especially sturdy protective envelope. The latter protects them against destruction during laying and the lengthy effect of all external factors in the process of operation. Capron fibers are used most often as the reinforcing element.

The production of wavebeam guides is based on a simple principle. The glass melt is extruded through openings in a crucible and forms fibers which assume the necessary shape, cool, harden and are wound on a drum. The fiber diameter depends on the extrusion rate of the glass melt and the drum's speed of rotation. The press announced that 250 km of fiber with a diameter of 0.2 mm can be obtained from one liter of glass melt.

The wave beam guide itself is a two-layer fiber consisting of a center (core) and an envelope. Especially pure and transparent materials with a higher refractive index are used to manufacture the core. Propagation of light in the fiber is achieved by multiple internal reflection at the boundary of the core and envelope. Such fibers concede nothing to steel wire of the same thickness in their strength, but they require careful treatment due to excessive fragility (photo 1 [photo not reproduced]).

Complicated problems also must be resolved in creating light cables with low attenuation of signals transmitted along them. Especially pure glass (no more than one atom of admixtures is tolerable per billion atoms forming the glass) as well as special technology for placing the fibers in manufacturing the cable are necessary for such wavebeam guides.

The effectiveness of optical communications lines also depends on light sources being used as transmitters of optical signals. Special light sources (light diodes and lasers) with small dimensions and great brightness have been created recently.

It is natural that new communications systems required creation of light cables, standard transmitting and receiving modules, standardized connectors and terminals, as well as other necessary equipment (photo 2 [photo not reproduced]). A large number of foreign firms, and military departments (above all, are engaged in solving all these problems.

Here are a few figures published in foreign journals, and particularly in *Avionics* (1971, N. 1). The onboard EVM [electronic computer] of a contemporary aircraft weighs 20-30 kg and the weight of the set of cables leading to sensors and displays reaches five tons. This enormous amount arises chiefly because of a need for careful screening of wires which prevents mutual interference by various measurement systems and control systems. Wavebeam guide cables are ten times lighter.

Reviewers also note other factors which force the specialist to find ways to develop these means of communication further. Fiber optic networks have substantially greater carrying capacity and high data transmission rates, a higher degree of security of the transmission process, and they practically preclude the intercept of these data by a potential enemy using existing technical means of reconnaissance.

It has been reported that in constructing optical networks using wavebeam guides there has been success in precluding the effects of radiation and electromagnetic pulses arising from nuclear bursts on the communications lines, as well as ignition and sparking as a result of their damage. There is a substantial reduction in cost of the light cables resulting from the use of inexpensive raw materials for their manufacture and a decrease in the use of valuable metals.

At the present time an enormous amount of scarce copper and aluminum is being used to manufacture various cables and lines, and lead and special steels are used for protection against mechanical damages, the effect of a corrosive medium and so on.

This does not exhaust the advantages and economic effect in the use of wave-beam guide cables. It is possible to transmit an enormously greater volume of data over great distances through each fiber included in such a cable than through the largest capacity of coaxial radio frequency cable. The distance between repeater stations increases by dozens of times, which also provides for a saving of resources by reducing the number of repeaters and spaces for accommodating them.

The wavebeam guide communications network developed for the deck-based A-7 Crusader attack aircraft (United States) can be given as an example. The weight of light cables used in the aircraft is 21 times less compared with electrical wiring, and the energy losses in the lines are reduced to 7.8-8.5 dB per kilometer of length. Specialists of the International Business Machines Corporation firm assume that it is most advisable to use fiber-optic means aboard aircraft in increasing the band of frequencies transmitted from 1.0 to 10-15 MHz. The firm developed an onboard light-cable line 15 m long with a bandwidth of 25 MHz, in which new light diodes are used as transmitters and more sensitive silicon photoelements are used in the receivers.

As the foreign press reports, the aircraft carriers "Kitty Hawk" and "Constellation" use closed state optical cable communications networks which provide for shipboard communications and the transmission of a large number of television programs, stereophonic radio broadcasts and other data. The journal *Newsweek* announced that a fiber-optics system has been developed for the U.S. Army for remote guidance of antitank guided missiles. A battlefield image taken by a television camera installed in the missile warhead is transmitted over a light cable, over which flight control commands also are passed.

The United States and a number of other countries are developing fiber-optics systems for field communications networks set up for weapons control and at control points, as well as long-range (main) optical communications lines. Such work is being carried on in Japan, England and Canada. Japan, for example, has created an experimental line 18 km long and a high-speed line (600 million bits per second) 80 km long. England is testing a marine wavebeam guide cable, the linear amplifiers of which are located every 30-35 km and their electrical power is supplied over metal lines passing within the cable. A similar line 3,200 km long is to begin operation this year in Canada.

Foreign military specialists are showing an interest in fiber-optic display boards for displaying the operational situation. It is assumed that with low energy consumption it will allow a rapid change in the kind of data recreated (color image, text, diagrams and so on). Light cables are planned for use to transmit images with higher resolution (100-150 lines per centimeter), for coding and decoding radar and television data transmitted from aircraft and satellites to earth, for identifying targets and in other fields.

An enormous arsenal of means has been created and is functioning on the basis of fiber optics and communications satellites which allow establishing contact with subscribers at any point on the globe as well as in Aerospace. It is through these means that U.S. and NATO military circles hope to provide stable control of combat operations.

USSR

BRIEFS

SATELLITE TRANSMISSION TO CUBA--Havana: Vyacheslav Lavrentyev reports that scientific and technical information from Moscow has been received via satellite in Havana for the first time. The receiving station is at Jaruco, 40 km from Havana. It was built with Soviet assistance and now handles virtually all the telephone and television communication between Cuba and the other socialist countries. Raoul Alvarez, deputy director of the Cuban International Center for Scientific and Technical Information, says the new facility for receiving scientific and technical information is very important. So far only test transmissions have been sent; but this form of communication will soon become regular. [LD180312 Moscow Domestic Service in Russian 1800 GMT 17 Apr 83]

CSO: 5500/1005

FRG STUDY ON FUTURE INFORMATION TECHNOLOGY POLICIES

Duesseldorf VDI NACHRICHTEN in German 9 Sep 83 p 2

[Article by G. H. Altenmueller: "Joint Action for Information Technology: Industry's Memorandum--Research Minister Prepares Comprehensive Plan"]

[Text:] Despite the sharpening international competition and a number of specific weaknesses the German information technology industry detects good chances of maintaining itself and of conquering new markets. A working association of 17 information technology entrepreneurs has now submitted to the German federal minister of research and technology the memorandum originally requested by him regarding the status and future of information technology in the FRG.

Research minister Dr Heinz Riesenhuber in an announcement to the press on 1 September hailed as a very remarkable event the joint declaration recently made for the first time ever by this industry to the German federal government. The memorandum is said to contain in addition to an analysis of the status of this key technology the catalogue of goals to be met by the comprehensive planning report to be forthcoming from the government in December and also to be met by future state funding conditions.

Riesenhuber sees the intensified cooperation among industrial entrepreneurs in this area among themselves as well as with the advanced schools and other research institutions, especially the Society for Mathematics and Data Processing, as a good example of the ideas which he is at the present time vigorously pursuing: namely, to unify efforts in various domains, to avoid fragmenting these efforts in thousands of individual projects and to strive for a quicker exploitation of the results of fundamental research.

In this he has been strengthened by his experience during a one week trip to Japan at the end of August and by two expert opinions on Japanese research policy (one by Prognos for the German Federal Research Ministry and one by Battelle for the German Federal Ministry of Industry). An intensive exchange of information with Japan is planned. A German-Japanese "information technology forum" is to be set up in Tokyo.

In a memorandum it is also emphasized that the industry ought to cooperate more than it has previously but without placing restrictions upon competition.

In future, structural elements, components and subsystems should be procured (or manufactured) by cooperating partners in order to reduce costs. Basic technologies should be developed jointly and in cooperation with advanced schools and research institutes common projects should be carried out. Already today the information technology industry finds its strength in the fact that, following the demands of the market, it is able to offer closed system solutions and is further developing information technology problem solutions in cooperation with the users. The information technology industry could, as urged in the memorandum, successfully adapt itself to regionally differing user requirements and in monitor text and teletext it has available a distinct advance in information technology infrastructure. Weaknesses are: a domestic market which is too small, a presence in the world marketplace which is too slight, too few small young enterprises and insufficient innovative impulses arising from government-supported contracts.

Klaus Luft, of Nixdorf AG, pointed out in the joint press conference the fact that in the United States and also in Japan about one-half of research and development expenditures in the information technology industry are funded by government (in the United States especially by the Department of Defense). This justifies him in calling for direct project funding in the future (in addition to indirect support), limited, of course, to especially risky long-term expensive research and development projects.

Finally, the research minister and the speaker for industry emphasized that training and public enlightenment are a joint task of the state and industry. Luft announced that industry is in process of improving the previously inadequate equipment of the general education schools and of the occupational schools by supplying them with computers. In this connection Riesenhuber hails the fact that the president of the VDI has offered him the support of the VDI for any public events related to information technology.

8008

CSO: 5500/2502

CELLULAR, FIBER OPTIC TELEPHONE SERVICE IN MAJOR CITIES BY 1986

Madrid EL PAIS in Spanish 23 Sep 83 p 25

[Text] The main Spanish [provincial] capitals will by 1986 have radiotelephonic or automatic mobile telephone (TMA) systems, thanks to the progressive installation of cellular networks, a new technological concept that allows a tenfold increase in capacity for this service with greater efficiency. Cellular radio and fiber optics are two central subjects at the 22nd European Telecommunications Conference meeting in Madrid.

Currently only Madrid and Barcelona have radiotelephone service available, and only in Madrid have the first cellular networks been installed, which over the next 3 years will extend to the major provincial capitals. The Madrid installation began operating in 1982, once the service which the former system could provide on the 150-megahertz band had become saturated, and which it is predicted will become saturated in Barcelona in 1984; in 1985 cellular networks will be extended to Bilbao, Valencia and Vitoria, and in 1986 to other capitals such as Sevilla, Malaga, Alicante and Zaragoza.

Potential Demand

Ramon Torres, deputy director of engineering for projects and installations of the Spanish National Telephone Company (CTNE), stated in his speech to more than 500 engineers from all over Europe meeting in Madrid that the potential demand for this kind of service, which allows telephone communication from any location with the entire national and international telephonic network, is very high and that its expansion will depend on the policy followed in terms of cost of installation and rates, currently high. This demand forecast takes into account that approximately 60,000 mobile radiotelephones on private networks are already operating in Spain. The objective of standardization in all of Europe of these networks is so that they may operate on the 900-MHz band. Hexagonal in shape, cellular networks have the capability to perform total coverage with maximum frequency use (in technical terms, reutilization of channels occurs). The mobile station provided by this system constantly transmits a fix signal which permits its call to be routed to the nearest cell. From cell to cell, the communication is verified by channel change without the

subscriber being aware of it. Mobile radiotelephone systems can also provide a solution for integrating remote rural areas into the telephone network, as demonstrated by another speaker, the Belgian Liekens.

Fiber Optics

Wide-band systems, based on transmission by fiber optics, is another of the main themes at the meeting of EEC engineers. These systems, because of their capability, are the basis of future integrated service networks which will transmit both voice as well as information and images. The launching of fiber optics is being carried out slowly, however, as was shown during the meetings, in view of the fact that replacement of present telephone networks by fiber optic systems requires very heavy investments. In Spain the CTNE this year will be carrying out an experiment with a fiber optic subscriber network in the Madrid area, for a total length of five years for 50 subscribers.

In addition to experiments on the regular telephone network, fiber optic installations are being made on railroads and in Spanish electrical installations, as reported by Bartolome Fernandez of the Standard Electrica research center. These installations have as their objective private communications and monitoring and telemetering applications. In the case of high-voltage networks, fiber optics can be installed parallel with the cable without interference.

Since 1981, on the other hand, a group of experts has been working under Spanish government auspices on a special program on fiber optic communications technology, the ARCO program. At present in Spain optic cable is manufactured only with imported fiber optics. This program includes four plans for application: a multiservice subscriber network, a high-speed link, a monitoring system with optic sensors and communications for electric companies, and a medium-capacity transmission system, and depends on the research by the group of experts and approval by the government.

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